

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

FRACTUS, S.A.,

Plaintiff,

vs.

SAMSUNG ELECTRONICS CO, LTD.,
ET AL.,

Defendants.

CIVIL ACTION NO. 6:09-cv-203

DEMAND FOR JURY TRIAL

**AMENDED ANSWER OF THE SHARP DEFENDANTS TO
PLAINTIFF'S SECOND AMENDED COMPLAINT**

Defendants, Sharp Corporation and Sharp Electronics Corporation (hereafter SC or SEC, if individually; or SHARP, if collectively), hereby answer the Second Amended Complaint and Jury Demand ("Complaint") filed by Plaintiff, Fractus, S.A. (hereafter Fractus), filed on December 2, 2009. SHARP denies each and every allegation set forth in the Complaint, except for those allegations expressly and specifically admitted below. In particular, SHARP specifically denies the Fractus allegations of patent infringement, validity and enforceability. With respect to each of the numbered paragraphs of the Complaint, SHARP responds as follows:

THE PARTIES

1-8. With respect to the allegations of Paragraphs 1-8 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

9. SHARP admits the allegations of Paragraph 9 of the Complaint.

10-11. With respect to the allegations of Paragraphs 10-11 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

JURISDICTION AND VENUE

12. SHARP admits that the Complaint alleges a claim for patent infringement under the Patent Laws of the United States, 35 U.S.C. §§ 101, *et seq.*, but denies that the Complaint sets forth any cause of action under which Fractus is entitled to any relief. As set forth hereinafter, there is no infringement of any valid and enforceable claim of the asserted patent in suit. SHARP admits that this Court has subject matter jurisdiction over patent infringement actions under 28 U.S.C. §§ 1331, 1332 and 1338(a). SHARP denies that venue is proper and that this is the most convenient venue.

INFRINGEMENT OF U.S. PATENT NO. 7,015,868

13-20. With respect to the allegations of Paragraphs 13-20 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

21. SHARP denies all allegations of Paragraph 21 of the Complaint.

22-23. With respect to the allegations of Paragraphs 22-23 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

24. SHARP denies all allegations of Paragraph 24 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 24 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,123,208

25-32. With respect to the allegations of Paragraphs 25-32 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

33. SHARP denies all allegations of Paragraph 33 of the Complaint.

34-35. With respect to the allegations of Paragraphs 34-35 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

36. SHARP denies all allegations of Paragraph 36 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 36 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,148,850

37-44. With respect to the allegations of Paragraphs 37-44 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

45. SHARP denies all allegations of Paragraph 45 of the Complaint.

46-47. With respect to the allegations of Paragraphs 46-47 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

48. SHARP denies all allegations of Paragraph 48 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 48 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,202,822

49-56. With respect to the allegations of Paragraphs 49-56 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

57. SHARP denies all allegations of Paragraph 57 of the Complaint.

58-59. With respect to the allegations of Paragraphs 58-59 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

60. SHARP denies all allegations of Paragraph 60 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 60 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,312,762

61-69. With respect to the allegations of Paragraphs 61-69 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

70. SHARP denies all allegations of Paragraph 70 of the Complaint.

71. With respect to the allegations of Paragraph 71 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

72. SHARP denies all allegations of Paragraph 72 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 72 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,394,432

73-81. With respect to the allegations of Paragraphs 73-81 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

82. SHARP denies all allegations of Paragraph 82 of the Complaint.

83. With respect to the allegations of Paragraph 83 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

84. SHARP denies all allegations of Paragraph 84 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 84 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,397,431

85-92. With respect to the allegations of Paragraphs 85-92 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

93. SHARP denies all allegations of Paragraph 93 of the Complaint.

94-95. With respect to the allegations of Paragraphs 94-95 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

96. SHARP denies all allegations of Paragraph 96 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 96 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,411,556

97-105. With respect to the allegations of Paragraphs 97-105 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

106. SHARP denies all allegations of Paragraph 106 of the Complaint.

107. With respect to the allegations of Paragraph 107 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

108. SHARP denies all allegations of Paragraph 108 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 108 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

INFRINGEMENT OF U.S. PATENT NO. 7,528,782

109-116. With respect to the allegations of Paragraphs 109-116 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

117. SHARP denies all allegations of Paragraph 117 of the Complaint.

118-119. With respect to the allegations of Paragraphs 118-119 of the Complaint, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

120. SHARP denies all allegations of Paragraph 120 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 120 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

WILLFUL INFRINGEMENT

121. SHARP denies all allegations of Paragraph 121 of the Complaint to that extent that they relate to SHARP. With respect to the allegations of Paragraph 121 of the Complaint as they relate to other defendants, SHARP is without sufficient knowledge or information to form a belief as to the truth of the allegations and, therefore, denies the allegations.

JURY DEMAND

122. No response is required.

SHARP'S AFFIRMATIVE DEFENSES

FIRST AFFIRMATIVE DEFENSE

123. The Fractus Complaint fails to state any claim or cause of action upon which relief can be granted against SHARP.

SECOND AFFIRMATIVE DEFENSE

124. SHARP has not in the past and does not presently infringe (directly, contributorily, or by inducement) any of the asserted patent claims, either literally or under the doctrine of equivalents.

THIRD AFFIRMATIVE DEFENSE

125. Upon information and belief, all asserted claims of the patents-in-suit are invalid on the grounds that the purported invention attempted to be patented therein fails to meet the conditions of patentability specified in 35 U.S.C. § 1 *et seq.*, including, *inter alia*, § 102, 103, 112, 252 and/or 255.

FOURTH AFFIRMATIVE DEFENSE

126. By reason of the arguments made during proceedings in the United States Patent and Trademark Office ("PTO") during prosecution of the asserted patents and/or related applications/patents, Fractus is estopped from asserting a construction of the

claims of the patents that covers any SHARP apparatus, system, device, product or method imported, made, used, offered for sale and/or sold now or in the past.

FIFTH AFFIRMATIVE DEFENSE

127. The claims and parties to this action are improperly joined under Rule 20 because there are questions of law and/or fact that are not common to all defendants. As a result, the Complaint should be dismissed and/or severed for separate trial.

SIXTH AFFIRMATIVE DEFENSE

128. Although Fractus is entitled to no damages, its claim for damages also is barred or limited by laches and/or estoppel as well as 35 U.S.C. §§ 286, 287 and 288.

SEVENTH AFFIRMATIVE DEFENSE

129. Upon information and belief, SHARP allege that Fractus and/or its agents/counsel engage in inequitable conduct affecting all of the asserted claims of U.S. Patent Nos. 7,015,868, 7,123,208, 7,394,432, 7,397,431 and 7,528,782. The '868 Patent, the '208 Patent, the '431 Patent, the '432 patent, and the '782 Patent (and others claiming priority to U.S. Patent Application No. 10/102,568) are collectively referred to as the "Multilevel Antenna Patent Family." Without limitation, SHARP expressly incorporates the allegations relating to this defense as set forth in the Affirmative Defenses of each Defendant in this action.

a. The asserted patents in the Multilevel Antenna Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld with an intent to deceive highly material information, including the following:

i. The Multilevel Antenna Patent Family purportedly claims priority to PCT Application No. ES99/00296, filed on September 20, 1999. At the time the application was filed, all of the named inventors were either professors or doctoral

students at Universitat Politecnica de Catalunya (“UPC”), a technical university in Barcelona, Spain. The named inventors at the time of filing included Professor Jordi Romeu Robert, Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, and Jordi Soler Castany.

ii. On information and belief, Fractus was founded in 1999 by Carles Puente Baliarda and others (collectively, the “Fractus Founders”). Professor Romeu was one of the Fractus Founders. On information and belief, Professor Romeu left Fractus some time in or around 2000-2001.

iii. In 2003, after Professor Romeu had left Fractus, he published a paper with two co-authors who were also students and/or professors at UPC, entitled “Are Space-Filling Curves Efficient Small Antennas?” (IEEE Antennas and Wireless Propagation Letters, Vol. 2, 2003) (the “Romeu Paper”).

iv. On information and belief, in or around early 2002, at the time that Professor Romeu was conducting the Romeu Paper Research, Fractus made a decision to improperly remove Professor Romeu as an inventor in the Multilevel Antenna Patent Family.

v. On information and belief, Professor Romeu should properly have remained a named inventor on the applications in the Multilevel Antenna Patent Family.

vi. On or around June 7, 2002, in Application No. 10/102,568 of the Multilevel Antenna Patent Family, Harris A. Wolin of Katten Muchin Zavins Rosenman filed in the USPTO (1) copies of documents “deleting Mr. Jordi Romeu Robert as an inventor,” and (2) the declaration of inventors Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, and Jordi Soler Castany acknowledging their duty of candor and attesting to the fact that they were the joint (and only) inventors of the claimed subject matter, and which declaration included a place for Professor Romeu’s signature (which was left blank).

vii. Upon information and belief, one or more of Harris A. Wolin, Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, and Jordi Soler Castany knew that Professor Romeu was a true inventor of the claimed subject matter in Application No. 10/102,568, and knew the declaration of inventorship was false.

viii. In the applications that issued as the '868 Patent, the '208 Patent, the '431 Patent, the '432 Patent, and/or the '782 Patent of the Multilevel Antenna Patent Family, Fractus' patent attorney Brian Walker of Howison & Arnott, LLP, or others having a duty of candor to the USPTO, likewise filed in the USPTO the declaration of inventors Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, and Jordi Soler Castany acknowledging their duty of candor and attesting to the fact that they were the joint (and only) inventors of the claimed subject matter. Upon information and belief, one or more of Brian Walker, Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, Jordi Soler Castany and/or others having a duty of candor to the USPTO knew that Professor Romeu was also a true inventor of the claimed subject matter in the '868 Patent, and knew that the declaration of inventorship was false.

ix. On information and belief, one or more of Francisco Carpintero Lopez, Roland Brachmann of Jones Day, Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors from the Fractus Common Inventor Group discussed and shared prosecution strategies amongst one another in the prosecution of Fractus patent applications, and made a decision to remove Professor Romeu as an inventor even though Professor Romeu contributed to the claimed inventions in the Multilevel Antenna Patent Family. Upon information and belief, one or more of Brian Walker, Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, Jordi Soler Castany and/or others having a duty of candor to the USPTO knew that Professor Romeu was also a true inventor of the claimed subject matter in the '782 Patent, and thus knew that the declaration of inventorship was false.

x. On information and belief, Professor Romeu was omitted from the Multilevel Antenna Patent Family with deceptive intent, and the above-referenced declarations filed with the USPTO in the Multilevel Antenna Patent Family was executed and/or filed with an intent to deceive the USPTO. The intent to deceive the USPTO by one or more of Harris A. Wolin, Brian Walker, Carles Puente Baliarda, Carmen Borja Borau, Jaume Anguera Pros, Jordi Soler Castany and/or others having a duty of candor is apparent based on the above-described facts and the other facts set forth herein above and/or subject to discovery in this litigation.

xi. The omission of a true inventor with deceptive intent was a material omission because it involved the filing of false oaths/declarations.

xii. Accordingly, the '868 Patent, the '208 Patent, the '431 Patent, the '432 patent, and the '782 Patent are unenforceable due to inequitable conduct.

b. The asserted patents in the Multilevel Antenna Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld highly material information with an intent to deceive, including the following:

i. At different points in time, at least Joseph Sauer of Jones Day, Stanley Moore of Jenkins & Gilchrist (and later Winstead P.C.), Jeffrey Tinker of Winstead P.C., and Shoaib Mithani of Jenkins & Gilchrist (and later Winstead P.C.), prosecuted at least the application leading to U.S. Patent No. 7,486,242 (the '242 Patent).

ii. One or more of Carles Puente Baliarda and Jordi Soler Castany (hereinafter, the "Fractus Common Inventor Group") were listed as inventors on one or more of the following patents: the '431 Patent, the '432 Patent, the '782 Patent, the '822 Patent, the '556 Patent, the '762 Patent, and the '242 Patent. Additionally, upon information and belief, one or more of the inventors in the Fractus Common Inventor Group were substantively involved in the prosecution of the applications leading to the

‘431 Patent, the ‘432 Patent, the ‘782 Patent, the ‘822 Patent, the ‘556 Patent, the ‘762 Patent, and the ‘242 Patent. Accordingly, each person in this Fractus Common Inventor Group had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO for each of the ‘431 Patent, the ‘432 Patent, the ‘782 Patent, the ‘822 Patent, the ‘556 Patent, and the ‘762 Patent.

iii. The ‘431 Patent, the ‘432 Patent, the ‘782 Patent, the ‘822 Patent, the ‘556 Patent, the ‘762 Patent, and the ‘242 Patent are related because all include or included claims directed to a “multilevel structure,” a “space-filling structure,” or related claim elements such as a “multi-segment curve,” a “space-filling curve,” or a “structure including at least two levels of detail.”

iv. The application leading to the ‘242 Patent was being examined by Examiner Michael Wimer. The applications leading to the ‘431 Patent, the ‘432 Patent, and the ‘782 Patent were being examined by Examiner Tho Phan. The application leading to the ‘822 Patent was being examined by Examiner Hoang Nguyen. The application leading to the ‘556 Patent was being examined by Examiner Tan Ho. The application leading to the ‘762 Patent was being examined by Examiner Wimer.

v. Because of the relatedness of the claims as set forth above, the examiners of the applications leading to the ‘431 Patent, the ‘432 Patent, the ‘782 Patent, the ‘822 Patent, the ‘556 Patent, and the ‘762 Patent would have wanted to know of the rejections issued and/or the references applied by Examiner Wimer in Examiner Wimer’s examination of the application leading to the ‘242 Patent.

vi. One or more of Joseph Sauer of Jones Day, and Stanley Moore, Ross Robinson, and Shoaib Mithani of Jenkins & Gilchrist, PC and later of Winstead P.C., were identified as Fractus’ Patent Attorney and/or Patent Agent, and were substantively involved with the prosecution of the ‘556 Patent. As a result, Joseph Sauer of Jones Day, and Stanley Moore, Ross Robinson, and Shoaib Mithani of Jenkins & Gilchrist, PC and later of Winstead P.C., each had a duty of candor and good faith in

dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of Fractus patent applications, including the application leading to the '556 Patent.

vii. Brian Walker of Howison & Arnott, LLP was identified as Fractus' Patent Attorney and was substantively involved with the prosecution of the '432, '431, '782, and '822 Patents. As a result, Mr. Walker had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of Fractus patent applications, including the applications leading to the '432, '431, '782, and '822 Patents.

viii. One or more individuals with a duty of candor and good faith to the USPTO in the application leading to the '556 Patent, the '762 Patent, the '431 Patent, the '432 Patent, the '782 Patent, and the '822 Patent had numerous opportunities to disclose the '572 Patent and Examiner Wimer's rejections in the application leading to the '242 Patent to the examiners in the prosecution of the '556 Patent, the '762 Patent, the '431 Patent, the '432 Patent, the '782 Patent, and the '822 Patent.

ix. The '572 Patent and the rejections based thereupon (received in the prosecution of the application leading to the '242 Patent) were highly material to claims of the '432, '431, '782, '822, and '762 Patents. The intent to deceive the USPTO and the Examiners examining the applications leading to the '432, '431, '782, '822, and '762 Patents by one or more of the individuals with a duty of candor and good faith in dealing with the USPTO in the applications leading to the '432, '431, '782, '822, and '762 Patents is also apparent.

x. Any inequitable conduct that occurred in the applications leading to the '432, '431, '782, '822, and '762 Patents spreads to subsequent applications (e.g., continuation, continuation-in-part, divisional applications, etc.) that claim priority to these applications.

xi. Accordingly, the ‘868 Patent, the ‘208 Patent, the ‘431 Patent, the ‘432 patent, and the ‘782 Patent are unenforceable due to inequitable conduct.

c. The asserted patents in the Multilevel Antenna Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld highly material information with an intent to deceive, including the following:

i. At different points in time, at least Joseph Sauer of Jones Day; David Maiorana of Jones Day, and Brian Walker of Howison & Arnott, LLP prosecuted one or more of the applications in the Multilevel Antenna Patent Family (these individuals collectively referred to as the “Multilevel Prosecution Group”).

ii. The individuals in the Multilevel Prosecution Group owed a duty of candor and good faith in dealing with the USPTO in the prosecution of applications in the Multilevel Antenna Patent Family.

iii. Carles Puente Baliarda of the Fractus Multilevel Inventor Group is listed as the author of a “Ph.D. Dissertation” entitled “Fractal Antennas” (FRACTUSFH010608 - FRACTUSFH010888, hereinafter referred to as the “Puente Dissertation” or “Puente’s Dissertation”).

iv. The Puente Dissertation was not disclosed to the USPTO in the prosecution of U.S. Patent Application No. 10/102,568 (the “‘568 Application”) and Application No. 10/963,080 (the “‘080 Application,” which issued as the ‘868 Patent).

v. Upon information and belief, one or more of the inventors in the Fractus Multilevel Inventor Group, individuals in the Multilevel Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO was aware of or had possession of the Puente Dissertation during the prosecution of the ‘568 Application and/or the ‘080 Application.

vi. Upon information and belief, Carles Puente Baliarda of the Fractus Multilevel Inventor Group was aware of the Puente Dissertation. Upon information and belief, inventors in the Fractus Multilevel Inventor Group were aware of the Puente Dissertation.

vii. The withheld Puente Dissertation contained information that refutes or is inconsistent with arguments made concerning patentability of the claims in the '568 Application. Therefore, it is material.

viii. In the '080 Application, a continuation of the '568 Application, over 900 other references were provided to the USPTO, but the Puente Dissertation was again not provided.

ix. One or more of the inventors in the Fractus Multilevel Inventor Group, individuals in the Multilevel Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO buried the Examiner with over 900 other references, but continued to withhold the highly material Puente Dissertation through issuance of the '080 Application as the '868 Patent.

x. In addition to the above reasons of materiality, the Puente Dissertation is additionally material to the patentability of the claims in the Multilevel Antenna Patent Family because it anticipates or renders obvious claims as shown on the invalidity charts served on Fractus and which are hereby incorporated by reference.

xi. Any inequitable conduct that occurred in the applications leading to the '432, '431, '782, '822, and '762 Patents spreads to subsequent applications (e.g., continuation, continuation-in-part, divisional applications, etc.) that claim priority to these applications.

xii. Accordingly, the '868 Patent, the '208 Patent, the '431 Patent, the '432 patent, and the '782 Patent are unenforceable due to inequitable conduct.

d. The asserted patents in the Multilevel Antenna Patent Family are unenforceable because Fractus and/or its patent attorneys and/or others substantively involved in the prosecution before the USPTO knowingly presented false information to the USPTO, failed to correct such false statements, and failed to disclose material information to the USPTO, including the following:

i. The Multilevel Antenna Patent Family purportedly claims priority to PCT Application No. ES99/00296. On March 29, 2001, an international search report was issued for PCT Application No. ES99/00296, citing, amongst other references, Publication WO 97/06578 (listing Cohen as inventor).

ii. The first of the U.S. applications for the Multilevel Antenna Patent Family (U.S. Application No. 10/102,568), purportedly claiming priority to PCT Application No. ES99/00296, was filed on March 18, 2002. The following statement concerning Publication WO 97/06578 (listing Cohen as inventor) (hereinafter, the “Cohen Statement”) was added to the specification of U.S. Patent Application No. 10/102,568: “Publication WO 97/06578 discloses a fractal antenna, which has nothing to do with a multilevel antenna being both geometries essentially different.” This Cohen Statement was not included in the original PCT Application No. ES99/00296.

iii. The Cohen Statement was a false characterization of Publication WO 97/06578. In particular, Publication WO 97/06578 is not limited to only fractal antennas as alleged in the Cohen Statement.

iv. The inventors of the Multilevel Antenna Patent Family include Carles Puente Baliarda; Carmen Borja Borau; Jaume Anguera Pros; and Jordi Soler Castany (hereinafter, the “Fractus Multilevel Inventor Group.”). The Fractus Multilevel Inventor Group owed a duty of candor and good faith to the USPTO.

v. The intent to deceive the USPTO is apparent. Despite knowledge by one or more of the Fractus Multilevel Inventor Group that the Cohen Statement was false, the October 28, 2004 Declaration for U.S. Application No.

10/963,080 was still signed. Moreover, every patent in the Multilevel Antenna Patent Family not only claims priority to U.S. Application No. 10/963,080, but also additionally includes the false Cohen Statement.

vi. Any inequitable conduct that occurred in the applications leading to the '432, '431, '782, '822, and '762 Patents spreads to subsequent applications (e.g., continuation, continuation-in-part, divisional applications, etc.) that claim priority to these applications.

vii. Accordingly, the '868 Patent, the '208 Patent, the '431 Patent, the '432 patent, and the '782 Patent are unenforceable due to inequitable conduct.

EIGHTH AFFIRMATIVE DEFENSE

130. Upon information and belief, SHARP allege that Fractus and/or its agents/counsel engage in inequitable conduct affecting all of the asserted claims of U.S. Patent Nos. 7,148,850 and 7,202,822. The '850 Patent and the '822 Patent (and others claiming priority to U.S. Patent Application No. 10/182,635) are collectively referred to as the "Space Filling Miniature Patent Family." Without limitation, SHARP expressly incorporates the allegations relating to this defense as set forth in the Affirmative Defenses of each Defendant in this action.

a. The asserted patents in the Space Filling Miniature Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld highly material information with an intent to deceive as follows:

i. David Maiorana and Joseph Sauer of the Jones Day law firm were identified as Fractus' Patent Attorneys and were substantively involved in the prosecution of the Space Filling Miniature Patent Family. Additionally, upon information and belief, Mr. Maiorana and Mr. Sauer discussed and shared prosecution strategies amongst one another in the prosecution of multiple Fractus patent applications, including

the applications in the Space Filling Miniature Patent Family. As a result, Mr. Maiorana and Mr. Sauer had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of Fractus patent applications, including the applications in the Space Filling Miniature Patent Family.

ii. David Maiorana of Jones Day and Joseph Sauer of Jones Day prosecuted at least the following two “space-filling curve” applications for Fractus: the ‘635 Patent Application and another application leading to U.S. Patent No. 7,511,675 (the ‘675 Patent).

iii. Each of Carles Puente Baliarda; Edouard Jean Louis Rozan; and Jaime Anguera Pros (hereinafter, the “Fractus Common Inventor Group”) were listed as inventors on each and every one of the following applications/patents: the ‘675 Patent, the ‘850 Patent, the ‘822 Patent, and the ‘635 Patent Application. Additionally, upon information and belief, one or more of the inventors in the Fractus Common Inventor Group were substantively involved in one or more of the prosecution of the applications leading to the ‘675 Patent, the ‘635 Patent Application, the ‘850 Patent and the ‘822 Patent. Each person in this Fractus Common Inventor Group had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO for each of the ‘635 Patent Application and the applications leading to the ‘675 Patent, the ‘850 Patent, and the ‘822 Patent.

iv. The application leading to the ‘675 Patent, the ‘635 Patent Application, the ‘850 Patent and the ‘822 Patent are related because all include or included claims directed towards a “space-filling curve” and a “box-counting dimension” (which Applicants sometimes referred to as a “grid-dimension” or a “grid dimension curve” – where the “grid-dimension” is greater than one).

v. Upon information and belief, “grid dimension” and “box-counting dimension” were interchangeably used by Fractus to describe the same concept.

Specifically, “box-counting dimension” was used in earlier applications. However, as described in further detail below with regards to difficulties encountered by Fractus in a European application, Fractus subsequently changed this term to “grid dimension” in later applications. As described above, the “grid dimension curve” claim feature was defined in the ‘675 Patent specification as follows: “a curve geometry having a grid dimension that is greater than one.”

vi. Upon information and belief, Fractus treated the “multi-segment curve” claim feature as a similar feature to the “space-filling curve” claim feature.

vii. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group recognized the relatedness of the ‘635 Patent Application to the application leading to the ‘675 Patent. For example, David Maiorana of Jones Day filed the exact same Information Disclosure Statement (“IDS”) on more than one occasion in each of the ‘635 Patent Application and the application leading to the ‘675 Patent. On March 15, 2004, David Maiorana of Jones Day filed these two identical IDSs respectively in the ‘635 Patent Application and the application leading to the ‘675 Patent. Then, approximately a month later, David Maiorana of Jones Day again filed these two identical IDSs respectively in the ‘635 Patent Application and the application leading to the ‘675 Patent approximately three days apart.

viii. Because of the relatedness of the claims of the application leading to the ‘675 Patent and the ‘635 Patent Application, any rejection or references applied in the application leading to the ‘675 Patent would have been material to the applications of the Space Filling Miniature Patent Family.

ix. The ‘635 Patent Application was being examined by Examiner Hoang Nguyen (“Examiner Nguyen”) whereas the application leading to the ‘675 Patent was being examined by Examiner Michael Wimer (“Examiner Wimer”). Examiner Nguyen also examined applications leading to the ‘850 and ‘822 Patents.

x. Because of the relatedness of the claims of the application leading to the '675 Patent and the '635 Patent Application, Examiner Nguyen in his examination of the '635 Patent Application and the applications leading to the '850 Patent and the '822 Patent would have wanted to know of the rejections issued and/or references applied by Examiner Wimer in Examiner Wimer's examination of the application leading to the '675 Patent.

xi. On October 4, 2004, in the prosecution of the application leading to the '675 Patent, Examiner Wimer of the USPTO issued an office action (addressed to Joseph Sauer of Jones Day), which was received by one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group. Examiner Wimer's rejection informed one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group that United States Patent No. 5,363,114 (the '114 Patent) disclosed both the "space-filling curve" claim feature and the "grid dimension curve" claim feature (defined in the '675 Patent specification as follows: "a curve geometry having a grid dimension that is greater than one"). Specifically, the '114 Patent was used in rejecting the claims with the "space-filling curve" feature and "grid dimension curve" feature.

xii. At the same time, on October 4, 2004, the features of the "space-filling curve" and the "box-counting dimension" being greater than one (a "grid-dimension curve," according to the '675 Patent specification) were also present in the claims of the co-pending '635 Patent Application.

xiii. Accordingly, the '114 Patent and the rejections based thereupon were highly material to the '635 Patent Application. Furthermore, the '114 Patent and rejections based thereupon were not cumulative to references already of record in the '635 Patent Application. Notwithstanding this, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common

Inventor Group withheld the '114 Patent and Examiner's Wimer's rejection from Examiner Nguyen in the prosecution of the '635 Patent Application.

xiv. In addition to withholding the '114 Patent and rejections based thereupon in the prosecution of the '635 Patent Application, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group additionally withheld other references cited by Examiner Wimer in rejecting claims of the application leading to the '635 Patent. In particular, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld United States Patent Nos. 6,011,518 (the "'518 Patent") and 6,087,990 (the "'990 Patent") — both of which were used as secondary references to the '114 Patent in an obviousness rejection of October 4, 2004 for claims of the application leading to the '675 Patent.

xv. Despite previously citing the same references in both the application leading to the '675 Patent and the '635 Patent Application, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld rejections and references received in the application leading to the '675 Patent for the prosecution of the '635 Patent Application.

xvi. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group recognized their duty to disclose material prior art cited in the application leading to the '675 Patent in other Fractus patent applications. On December 13, 2004, almost two months after receiving the rejection in the application leading to the '675 Patent, David Maiorana of Jones Day cited the '114 Patent, the '518 Patent, and the '990 Patent in United States Patent Application No. 10/963,080 entitled "Multilevel Antenna." Significantly, United States Patent Application No. 10/963,080 entitled "Multilevel Antenna" did not include "box-counting dimension" claim features or "space-filling curve" claim features whereas the Space Filling Miniature Patent Family did include such

claim features. However, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld the '114 Patent from the prosecution of applications in the Space Filling Miniature Patent Family.

xvii. On December 13, 2004, in the prosecution of the '635 Patent Application, Examiner Nguyen issued a First Office Action (addressed to David Maiorana of Jones Day). Examiner Nguyen did not cite the '114 Patent.

xviii. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group recognized the materiality of the '114 Patent to claims with the "space-filling curve" feature and the "box-counting dimension being greater than one" feature (a "grid-dimension curve," according to the '675 Patent specification). Specifically, on January 6, 2005, in response to Examiner Wimer's rejection in the application leading to the '675 Patent, Joseph Sauer of Jones Day amended the claims in attempts to distinguish them from the '114 Patent, specifying that the "space-filling curve" included at least "two-hundred segments."

xix. Despite the above facts, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld the '114 Patent and the rejections based thereupon from Examiner Nguyen in the prosecution of '635 Patent Application.

xx. In the January 6, 2005 response to Examiner Wimer's rejection in the application leading to the '675 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group acknowledged the relatedness or sameness of the "box-counting dimension" and "grid-dimension" claim feature. The '675 Patent does not include the term "box-counting dimension." Instead, it includes the term "grid dimension." Additionally, Examiner Wimer never used the term "box-counting dimension" in his rejection of October 4, 2004 for the application leading to the '675 Patent. Notwithstanding this, in

the January 6, 2005 response, Joseph Sauer of Jones Day argued that the '114 Patent did not disclose the "grid dimension curve" or "box-counting dimension" claim feature, indicating the "box-counting dimension" is a "similar dimension criteria" to the "grid dimension."

xxi. Therefore, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group recognized and understood the relatedness or sameness of the "box-counting dimension" feature recited in the '635 Patent Application and the "grid-dimension" feature recited in the application leading to the '675 Patent, and yet withheld the '114 Patent and the rejections based thereupon from Examiner Nguyen in the prosecution of the Space Filling Miniature Patent Family.

xxii. Despite the knowledge of the '114 Patent and the knowledge of the rejections based thereupon, and the knowledge that similar claims had to be amended to attempt to overcome the '114 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group did not inform Examiner Nguyen of the '114 Patent or the rejections based thereupon. Particularly, on March 17, 2005, approximately two months after making an amendment to overcome the '114 Patent in a response for the prosecution of the '635 Patent Application of the Space Filling Miniature Patent Family, instead of apprising Examiner Nguyen and the USPTO of the '114 Patent or the rejections recently received in the application leading to the '675 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group remained silent.

xxiii. Moreover, in its March 17, 2005 response in the prosecution of the '635 Patent Application, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group decided to take claims that Examiner Nguyen identified as being allowable in a December

13, 2004 rejection (e.g., Dependent Claim 2). Of the claims identified as being allowable, Examiner Nguyen indicated that the cited references (which did not include the '114 Patent or the rejections based thereupon withheld from Examiner Nguyen) did not include the claim feature of a "box-counting dimension" being greater than one (e.g., as contained in Dependent Claim 2) — the same claim feature that one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group knew the USPTO found was disclosed by the '114 Patent (specifically Examiner Wimer in the application leading to the '675 Patent).

xxiv. In this March 17, 2005 response, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group took the claims (e.g., Dependent Claim 2) allowed by Examiner Nguyen knowing that Examiner Wimer believed that another reference, the '114 Patent, disclosed such claim features, and knowing that Examiner Nguyen did not know of the '114 Patent or Examiner Wimer's rejection based thereupon.

xxv. The pattern of withholding information from the USPTO in the prosecution of the Space Filling Miniature Patent Family continued. On April 7, 2005, in the prosecution of the application leading to the '675 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group was reminded, again, of the highly material nature of the '114 Patent. Specifically, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group received another rejection (addressed to Joseph Sauer of Jones Day) from Examiner Wimer at the USPTO. Examiner Wimer's rejection indicated that the '114 Patent disclosed the "space-filling curve" claim feature and the "box-counting dimension being greater than one" claim feature (the so-called "grid dimension curve") — even after the claims were amended to require that the "space-filling curve" included at least "two-hundred segments."

xxvi. At this time, the '625 Patent Application had not yet issued as a patent. However, despite the rejection of April 7, 2005 described in the preceding subparagraph, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld the '114 Patent and Examiner's Wimer's rejection from Examiner Nguyen in the prosecution of the '635 Patent Application.

xxvii. As identified in the preceding subparagraphs, during the six month time period between October 4, 2004 and April 7, 2005, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group had numerous opportunities that served as prompting reminders to disclose the '114 Patent, and the rejections based thereupon to Examiner Nguyen in the examination of the '635 Patent Application. Despite at least five opportunities to disclose the '114 Patent and Examiner's Wimer's rejections based thereupon, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group chose to withhold them.

xxviii. In the prosecution of the application leading to the '675 Patent, to ultimately overcome the highly material '114 Patent, at least two requests for continued examinations (RCEs) were filed and further amendments were made specifying that the size of the segments in the "space-filling curve" were was less than "34 mm" and that the antenna operated in FM bands.

xxix. Despite these amendments made to overcome the '114 Patent in the prosecution of the application leading to the '675 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld the '114 Patent and the multiple rejections based thereupon from Examiner Nguyen.

xxx. United States Patent Application No. 12/347,462 (the ‘462 Patent Application) is a member of the Space Filling Miniature Patent Family, purportedly claiming priority to the ‘635 Patent Application.

xxxi. Brian Walker of Howison & Arnott, LLP has been involved in the prosecution of the ‘462 Patent Application. Accordingly, Mr. Walker has a duty of candor and good faith in dealing with the USPTO, which includes a duty to disclose material information to the USPTO for the ‘462 Patent Application.

xxxii. Each of Carles Puente Baliarda, Edouard Jean Louis Rozan, and Jaume Anguera Pros, all members of the Fractus Common Inventor Group, are listed as inventors on the ‘462 Patent Application. Upon information and belief, one or more of the inventors in the Fractus Common Inventor Group were substantively involved in the prosecution of the ‘462 Patent Application. Each person in this Fractus Common Inventor Group had a duty of candor and good faith, which includes a duty to disclose material information to the USPTO for the ‘462 Patent Application.

xxxiii. On April 21, 2009, a preliminary amendment was filed in the ‘462 Application to replace Claims 1-17 with new Claims 18-145, at least some of which are directed towards a “multi-segment curve” and “box-counting dimension.”

xxxiv. Upon information and belief, Fractus treated the “multi-segment curve” claim feature as a similar feature to the “space-filling curve” claim feature.

xxxv. The ‘462 Patent Application is being examined by Examiner Hoang V. Nguyen (“Examiner Nguyen”). Examiner Nguyen also examined the ‘635 Patent Application and the applications leading to the ‘850 and ‘822 Patents.

xxxvi. On May 18, 2009, a Notice of Allowance was mailed allowing claims 18-145 of the preliminary amendment dated April 21, 2009.

xxxvii. On or around September 21, 2009, Fractus was provided a draft of the information in the preceding sub-paragraphs discussing the withholding of the

‘114 Patent from Examiner Nguyen in the prosecution of the applications in the Space Filling Miniature Patent Family.

xxxviii. On September 23, 2009, Mr. Walker filed a Petition for Withdrawal from Issue under 37 C.F.R. 1.313(c)(2), indicating that withdrawal was necessary so that a Request for Continued Examination and an Information Disclosure Statement could be filed under 37 C.F.R. 1.97. The Information Disclosure Statement filed with the Petition for Withdrawal cited the ‘114 Patent (Shoemaker reference) and the Office Action dated October 4, 2004 issued by Examiner Wimer of the USPTO in the prosecution of the application leading to the ‘675 Patent, as described in detail above.

xxxix. On September 30, 2009, the USPTO Office of Petitions granted the Petition for Withdrawal dated September 23, 2009.

xl. On October 28, 2009, Examiner Nguyen mailed an Office Action in the prosecution of the ‘462 Patent Application. This office action rejected many claims under 35 U.S.C. 102(b) as anticipated by the ‘114 Patent.

xli. Examiner Nguyen thereby recognized the materiality of the ‘114 Patent (Shoemaker reference) to the claims with the “multi-segment curve” and the “box counting dimension.”

xlii. The October 28, 2009 Action also rejected other claims under 35 U.S.C. 103(a) as unpatentable over the ‘114 Patent (Shoemaker reference).

xliii. Because of the relatedness of the claims of the applications of the Space Filling Miniature Patent Family and the ‘462 Patent Application, and because Examiner Nguyen used the ‘114 Patent to reject claims of the ‘462 Patent Application, Examiner Nguyen would have wanted to know of the ‘114 Patent and the Office Action dated October 4, 2004 during his examination of the ‘635 Patent Application and the applications leading to the ‘850 Patent and the ‘822 Patent.

xliv. As identified in the above subparagraphs, the ‘114 Patent and the rejections based thereupon (received in the prosecution of the application leading

to the '675 Patent) were highly material to claims of the '635 Patent Application, the '850 Patent, and the '822 Patent, for at least the following reasons:

- There were common claim features in each of the patent applications
- Two different examiners examined the patent applications
- The First Examiner found that the '114 Patent disclosed the common claim features
- The Second Examiner, unaware of the '114 Patent or the First Examiner's rejections, found that the cited art did not disclose the common claim features
- Applicants presented an amendment to the common claim features to the First Examiner in attempts to overcome the '114 Patent
- Applicants took claims with the common claim features from the Second Examiner
- The First Examiner found that the '114 Patent disclosed the common claim features — even as further amended
- Applicants presented further amendments to the common claim features to the First Examiner in attempts to overcome the '114 Patent
- When the Second Examiner is finally notified of the '114 Patent in a continuation application, the Second Examiner rejects claims with the common claim features as being anticipated by the '114 Patent

xliv. As identified in above, the intent to deceive Examiner Nguyen and the USPTO by one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group (the "Group Having a Duty of Candor") also is apparent based on the following pattern of conduct:

- There were common claim features in each of the patent applications
- Two different examiners examined the patent applications
- One or more of the Group Having a Duty of Candor established a practice of cross-citing references in the patent applications and then intentionally stopped
- One or more of the Group Having a Duty of Candor was put on specific notice of the materiality of the '114 Patent when the First Examiner found that the '114 Patent disclosed the common claim features
- One or more of the Group Having a Duty of Candor recognized their duty of disclosure by citing the '114 Patent in a less relevant application; however, they did not cite the '114 Patent to the Second Examiner in an application in which it was highly relevant
- One or more of the Group Having a Duty of Candor was presented with at least five distinct opportunities to disclose the '114 Patent to

the Second Examiner, but intentionally chose not to act on each of these opportunities

- Despite the knowledge of the '114 Patent, the knowledge of the rejections based thereupon, and the knowledge that the common claim features had to be amended to overcome the '114 Patent, one or more of the Group Having a Duty of Candor did not inform the Second Examiner of the '114 Patent or the rejections based thereupon; rather they took claims with the common claim features from the Second Examiner
- One or more of the Group Having a Duty of Candor never disclosed the '114 Patent to the Second Examiner despite continued difficulties with the '114 Patent in the application with the First Examiner

xlvi. Because the highly material '114 Patent and Examiner Wimer's rejections based thereupon were intentionally withheld from the prosecution of the Space Filling Miniature Patent Family (namely, Examiner Nguyen), one or more of, Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors from the Fractus Common Inventor Group deceived Examiner Nguyen and the USPTO. As a result, all of the patents in the Space Filling Miniature Patent Family are unenforceable due to inequitable conduct.

xlvii. Any inequitable conduct that occurred in the '635 Patent Application would spread to children that claimed priority to such an application. Because the same claim features (e.g., the "space-filling curve" claim feature and the "box-counting dimension greater than one" claim feature) included in the '635 Patent Application were also included in the '850 Patent and the '822 Patent, the inequitable conduct with respect to such claim features in the '635 Patent Application infected the '850 Patent and the '822 Patent. Additionally, the failure to cite the '114 Patent and rejections based thereupon in the prosecution of the applications leading to the '850 Patent and the '822 Patents separately constitutes a basis of inequitable conduct with respect to the '850 Patent and the '822 Patent.

xlviii. Accordingly, the '850 Patent and the '822 Patent are unenforceable due to inequitable conduct.

b. The asserted patents in the Space Filling Miniature Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO withheld highly material prior art and/or other highly material information from Space Filling Miniature Patent Family applications and with an intent to deceive the USPTO, by improperly excluding as an inventor the holder of that prior art, Professor Jordi Romeu Robert, from the Multilevel Antenna Patent Family, as follows:

i. Upon information and belief and as described above, Professor Romeu was improperly removed as an inventor from the Multilevel Antenna Patent Family.

ii. In 2003, after Professor Romeu had left Fractus, he published a paper with two co-authors who were also students and/or professors at UPC, entitled “Are Space-Filling Curves Efficient Small Antennas?” (IEEE Antennas and Wireless Propagation Letters, Vol. 2, 2003) (the “Romeu Paper”). The paper concluded that the behavior of space-filling curves as antennas “is not exceptional when compared with other intuitively-generated antennas.” The research that formed the basis for the Romeu Paper (the “Romeu Paper Research”), which began at least as early as 2002, further concluded that “space-filling prefractal antennas are not suitable to design efficient miniature antennas,” that “fractal dimension seems not to play a role in the behavior of the antennas as experiences with prefractals with the same fractal dimension show,” and finally that “other intuitively generated Euclidean configurations perform better than prefractal structures with the same size-reduction ratios [], and even admit more degrees of freedom for the antenna designer.”

iii. On information and belief, the decision to remove Professor Romeu as an inventor from the Multilevel Antenna Patent Family was made, at least in part, to obscure and withhold the Romeu Paper Research and/or other material

information in Professor Romeu's possession from the USPTO in the Space Filling Miniature Patent Family.

iv. Further, upon information and belief, one or more of Francisco Carpintero Lopez, Roland Brachmann of Jones Day, Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors from the Fractus Common Inventor Group discussed and shared prosecution strategies amongst one another in the prosecution of Fractus patent applications, and made a decision to remove Professor Romeu as an inventor even though Professor Romeu contributed to the claimed inventions in the Multilevel Antenna Patent Family.

v. On information and belief, the statements in the Romeu Article and other documents in Professor Romeu's control (including at least other documentation of his research) was material to, and undermined the patentability of, the subject matter of at least the Space Filling Miniature Patent Family.

vi. Because of the relevance of the Romeu Paper and the Romeu Paper Research to the claimed subject matter (in particular, the "space-filling curve" claim features, and any other Fractus patents having claims with "space-filling curve" limitations), a patent examiner of the applications leading to the '850 Patent and the '822 Patent would have wanted to know of the Romeu Article and/or other material documents or information in the possession of Professor Romeu, and would have wanted to know that at least one of the Fractus Founders (and a person who should be listed as an inventor) determined that space-filling curve designs were not advantageous over other known designs.

vii. The intent to deceive the USPTO by one or more of Roland Brachmann of Jones Day, Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors from the Fractus Common Inventor Group is also apparent based on the above-described pattern of conduct.

viii. Accordingly, the '850 Patent and the '822 Patent are unenforceable due to inequitable conduct.

c. The asserted patents in the Space Filling Miniature Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld highly material information with an intent to deceive, including the following:

i. David Maiorana and Joseph Sauer of the Jones Day law firm were identified as Fractus' Patent Attorneys and were substantively involved in the prosecution of the Space Filling Miniature Patent Family. Additionally, upon information and belief, Mr. Maiorana and Mr. Sauer discussed and shared prosecution strategies with one another in the prosecution of the applications in the Space Filling Miniature Patent Family. As a result, Mr. Maiorana and Mr. Sauer had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of Fractus patent applications, including the applications in the Space Filling Miniature Patent Family.

ii. David Maiorana of Jones Day and Joseph Sauer of Jones Day prosecuted at least the following two "space-filling curve" applications for Fractus: the '635 Patent Application and another application leading to U.S. Patent No. 7,245,196 (the '196 Patent).

iii. Each of Carles Puente Baliarda and Edouard Jean Louis Rozan (hereinafter, the "Fractus Common Inventor Group") were listed as inventors on each and every one of the following applications/patents: the '196 Patent, the '850 Patent, the '822 Patent, and the '635 Patent Application. Additionally, upon information and belief, one or more of the inventors in the Fractus Common Inventor Group were substantively involved in one or more of the prosecution of the applications leading to the '196 Patent, the '635 Patent Application, the '850 Patent and the '822 Patent. Accordingly,

each person in this Fractus Common Inventor Group had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO for each of the '635 Patent Application and the applications leading to the '196 Patent, the '850 Patent, and the '822 Patent.

iv. Because of the relatedness of the claims of the application leading to the '196 Patent and the '635 Patent Application, any rejection or references applied in the application leading to the '196 Patent would have been material to the applications of the Space Filling Miniature Patent Family.

v. The '635 Patent Application was being examined by Examiner Hoang V. Nguyen ("Examiner Nguyen") whereas the application leading to the '196 Patent was being examined by Examiner Benny Lee ("Examiner Lee"). Examiner Nguyen also examined the applications leading to the '850 Patent and the '822 Patent.

vi. Because of the relatedness of the claims of the application leading to the '196 Patent and the '635 Patent Application, Examiner Nguyen in his examination of the '635 Patent Application and the applications leading to the '850 Patent and the '822 Patent would have wanted to know of the rejections issued and/or references applied by Examiner Lee in his examination leading to the '196 Patent.

vii. On August 27, 2004, in the prosecution of the application leading to the '196 Patent, Examiner Lee of the USPTO issued an office action (addressed to David Maiorana of Jones Day), which was received by one or more of David Maiorana of Jones Day, Joseph Sauer of Jones Day, and/or the inventors in the Fractus Common Inventor Group. Examiner Lee's rejection informed one or more of David Maiorana of Jones Day, Joseph Sauer of Jones Day, and/or the inventors in the Fractus Common Inventor Group that United States Patent No. 6,122,533 (the '533 Patent) anticipated Claims 1 and 25 of the application leading to the '196 Patent. In particular, the '533 Patent disclosed all the elements of Claims 1 and 25, including "a space filling curve"

having “at least ten interconnected segments.” Specifically, the ‘533 Patent was used in a 102(e) rejection of claims with the “space-filling curve” feature.

viii. At the same time, on August 27, 2004, the features of the “space-filling curve” and the “SFC” is “composed by at least ten connected straight segments, wherein said segments are smaller than a tenth of the operating free-space wave length” were also present in the claims of the co-pending ‘635 Patent Application. Accordingly, the ‘533 Patent and the rejections based thereupon were highly material to the ‘635 Patent Application. Furthermore, the ‘533 Patent and rejections based thereupon were not cumulative to references already of record in the ‘635 Patent Application. At a minimum, Examiner Lee’s rejection based on the ‘533 Patent was not cumulative to references already of record in the ‘635 Patent Application. Notwithstanding this, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld the ‘533 Patent and Examiner’s Lee’s rejection from Examiner Nguyen in the prosecution of the ‘635 Patent Application.

ix. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group withheld rejections and references received in the application leading to the ‘196 Patent from the prosecution of the ‘635 Patent Application.

x. On June 2, 2005, in the prosecution of the application leading to the ‘196 patent, Examiner Lee of the USPTO issued an office action, which was received by one or more of David Maiorana of Jones Day, Joseph Sauer of Jones Day, and/or the inventors in the Fractus Common Inventor Group. Examiner Lee’s rejection informed one or more of David Maiorana of Jones Day, Joseph Sauer of Jones Day, and/or the inventors in the Fractus Common Inventor Group that United States Patent No. 4,536,725 (the ‘725 Patent) anticipated Claims 51 and 62 of the application leading to the ‘196 patent. In particular, the ‘725 Patent disclosed all the elements of Claims 51 and 62,

including “a space filling curve” having “at least twenty (20) connected straight segments.”

xi. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group repeatedly withheld the ‘533 Patent, the ‘725 Patent, and the multiple rejections based thereupon from Examiner Nguyen.

xii. Brian Walker of Howison & Arnott, LLP prosecuted the application leading to the ‘850 Patent and the application leading to the ‘822 Patent. Both of those patents include claims directed to the “space-filling curve” feature and/or the related “multi-segment curve” feature. On information and belief, Brian Walker of Howison & Arnott, LLP was made aware of the ‘533 Patent, the ‘725 Patent, and/or Examiner Lee’s rejections based on these references in the application leading to the ‘196 Patent. Despite repeated opportunities to disclose the ‘533 Patent, the ‘725 Patent, and Examiner Lee’s rejections during the prosecution of the ‘850 Patent and the ‘822 Patent, Brian Walker of Howison & Arnott, LLP withheld these references and rejections from Examiner Nguyen.

xiii. The ‘533 Patent, the ‘725 Patent and the rejections based thereupon (received in the prosecution leading to the ‘196 Patent) were highly material to claims in the ‘635 Patent Application, the ‘850 Patent, and the ‘822 Patent.

xiv. The intent to deceive Examiner Nguyen and the USPTO by one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group (the “Group Having a Duty of Candor”) is also apparent.

xv. Because the highly material ‘533 Patent, ‘725 Patent, and Examiner Lee’s rejections based thereupon were intentionally withheld from the prosecution of the Space Filling Miniature Patent Family (namely, Examiner Nguyen), one or more of, Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or

inventors from the Fractus Common Inventor Group deceived Examiner Nguyen and the USPTO. As a result, all of the patents in the Space Filling Miniature Patent Family are unenforceable due to inequitable conduct.

xvi. Any inequitable conduct that occurred in the '635 Patent Application would spread to children that claimed priority to such an application. Because the same or related claim features included in the '635 Patent Application were also included in the '850 Patent and the '822 Patent, the inequitable conduct with respect to such claim features in the '635 Patent Application infected the '850 Patent and the '822 Patent. Additionally, the failure to cite the '533 Patent, the '725 Patent, and rejections based thereupon in the prosecution of the applications leading to the '850 Patent and the '822 Patents separately constitutes a basis of inequitable conduct with respect to the '850 Patent and the '822 Patent.

xvii. Accordingly, the '850 Patent and the '822 Patent are unenforceable due to inequitable conduct.

d. The asserted patents in the Space Filling Miniature Patent Family are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in the prosecution before the USPTO violated a duty of candor and good faith in dealing with the USPTO, including the following:

i. At different points in time, at least Joseph Sauer of Jones Day; David Maiorana of Jones Day; James Finder of Ostrolenk, Faber, Gerb & Soffen, LLP; and William Gray III of Ostrolenk, Faber, Gerb & Soffen, LLP; and Brian Walker of Howison & Arnott, LLP prosecuted one or more applications in the Space Filling Miniature Patent Family (these individuals collectively referred to as the "Space Filling Prosecution Group").

ii. The individuals in the Space Filling Prosecution Group owed a duty of candor and good faith in dealing with the USPTO in the prosecution of applications in the Space Filling Miniature Patent Family.

iii. The following statement is contained in applications of the Space Filling Miniature Patent Family (hereinafter the “Hilbert and Peano Statement,” emphasis added):

- “Some of the geometries described in the present invention are inspired in the geometries studied already in the XIX century by several mathematicians such as Giuseppe *Peano* and David *Hilbert*. In all said cases the curves were studied from the mathematical point of view but were *never used for any practical engineering application*.”

iv. The Hilbert and Peano statement was a misrepresentation of when Hilbert and Peano “geometries” were introduced. The Puente Dissertation introduced Hilbert and Peano geometries for antennas more than two years before the purported priority date of applications in the Space Filling Miniature Patent Family.

v. Because the Puente Dissertation lists a publication date of May 1997 — more than two years prior to the earliest alleged priority date of applications in the Space Filling Miniature Patent Family, the Puente Dissertation qualifies as prior art to all applications in the Space Filling Miniature Patent Family under 35 U.S.C. § 102(b).

vi. Because Carles Puente Baliarda of the Fractus Common Inventor Group introduced Hilbert and Peano geometries for antennas in the Puente Dissertation more than two years before filing an application on the same concept, he was barred from seeking patent protection for an antenna having Hilbert and Peano geometry.

vii. Knowing that he was barred from seeking patent protection on Hilbert and Peano geometries for antennas, Carles Puente Baliarda of the Fractus Common Inventor Group presented the Hilbert and Peano curves to the world, again, misrepresenting to the world that “geometries” of Hilbert and Peano were “never used for a practical engineering application.”

viii. Upon information and belief, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO was aware of or had possession of the Puente Dissertation during the prosecution of applications in the Space Filling Miniature Patent Family.

ix. One or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO knew or should have known that the Hilbert and Peano Statement was a mischaracterization of the state of the art.

x. The Puente Dissertation was not provided to the USPTO in the prosecution of the '635 Patent Application.

xi. Not only did one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO mischaracterize the state of the art as it existed prior to the earliest alleged priority date of an application in the Space Filling Miniature Patent Family, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith also withheld the Puente Dissertation, itself, from the USPTO in the prosecution of the '635 Patent Application.

xii. Although the Puente Dissertation was eventually provided to the USPTO in the prosecution of the application leading to the '850 Patent, it was not disclosed until after the USPTO had allowed claims, and after issue fees were paid.

xiii. Despite the ultimate disclosure of the Puente Dissertation in applications of the Space Filling Miniature Patent Family, the Hilbert and Peano Statement was never modified in the prosecution of applications in the Space Filling Miniature Patent Family.

xiv. By withholding the Puente Dissertation for four years during the substantive examination of the claims in the applications leadings up to the '850 Patent, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO sought to obtain allowance of claims that would not otherwise be allowable had the Puente Dissertation provided earlier.

xv. By mischaracterizing the state of the art and/or failing to correct this mischaracterization, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO sought to obtain allowance of claims that would not otherwise be allowable absent the misrepresentation and/or correction of the misrepresentation.

xvi. One or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO violated their duty of candor by knowingly mischaracterizing the state of the art, for example, with the Hilbert and Peano Statement and/or failing to correct the misrepresentation of the state of the art in the prosecution of applications of the Space Filling Miniature Patent Family.

xvii. Accordingly, the '850 Patent and the '822 Patent are unenforceable due to inequitable conduct.

e. The asserted patents in the Space Filling Miniature Patent Family are unenforceable because Fractus and/or its patent attorneys and/or others substantively involved in the prosecution before the USPTO engaged in a course of conduct with an intent to deceive the USPTO, including the following:

i. Brian Walker of Howison & Arnott was identified as Fractus' Patent Attorney and/or Patent Agent, and was substantively involved with the

prosecution of the '850 Patent. As a result, Brian Walker had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of the '850 Patent.

ii. A Notice of Allowance was issued on March 31, 2006 in the application leading to the '850 Patent. On April 24, 2006, applicants submitted payment of the issue fee, thereby putting the application in condition to issue. Thereafter, on May 11, 2006, applicants filed a Petition For Withdrawal From Issue in order to remove the application from issue and submit additional prior art in another IDS. The highly material prior art submitted in this IDS included, for example, a paper published by inventor Baliarda nearly 10 years earlier ("Fractal Antennas; Ph.D. Dissertation").

iii. On information and belief, one or more of Brian Walker of Howison & Arnott, and inventors Carles Puente Baliarda, Edouard Jean Louis Rozan, and Jaume Anguera Pros ("the Fractus Space Filling Inventor Group") and/or others owing a duty of candor to the USPTO purposefully submitted large volumes of prior art and withheld highly material references until the end of prosecution – and even until after allowance – with an intent to deceive the USPTO.

iv. Brian Walker of Howison & Arnott was identified as Fractus' Patent Attorney and/or Patent Agent, and was substantively involved with the prosecution of the '822 Patent. As a result, Brian Walker had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of the '822 Patent.

v. Over 300 prior art references were cited and made of record in the prosecution of the '822 Patent. On information and belief, one or more of Brian Walker of Howison & Arnott and the Fractus Space Filling Inventor Group and/or others owing a duty of candor to the USPTO purposefully submitted a large number of prior art references in order to bury the USPTO examiner, and in order to obscure the most relevant prior art references, with an intent to deceive the USPTO. Some of these most

relevant references, each of which is highly material to the patentability of the '822 Patent, include U.S. Patent No. 6,104,349, U.S. Patent No. 6,452,553, U.S. Patent No. 5,986,609, and U.S. Patent No. 6,160,513, among others.

vi. The above-described course of conduct, enacted with intent to deceive the USPTO and to obscure numerous highly material references from the USPTO during prosecution, each provide independent grounds for inequitable conduct of the entire Space Filling Miniature Patent Family.

vii. Accordingly, the '850 Patent and the '822 Patent are unenforceable due to inequitable conduct.

f. The '850 Patent and the '822 Patent are additionally unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld highly material information with an intent to deceive, including the following:

i. The '635 Patent Application (of the Space Filling Miniature Patent Family) purportedly claims priority to Patent Cooperation Treaty ("PCT") Application No. EP00/00411. European Patent ("EP") Application No. 00909089.5 also purportedly claims priority to PCT Application No. EP00/00411. Accordingly, EP Application No. 00909089.5 was a foreign counterpart to the '635 Patent Application of the Space Filling Miniature Family.

ii. In EP Application No. 00909089.5, multiple communications were received from and sent to the European Patent Office ("EPO") by individuals from the Spanish law firm of Herrero & Asociados. Among other things, the EPO issued multiple rejections for then-pending "space-filling curve" and "box-counting dimension" claims, pointing to a "Lack of Clarity," a "Lack of Disclosure," and a lack of "Novelty and Inventive Step." However, as discussed more fully below, those owing a

duty of candor and good faith to the USPTO withheld these communications with the EPO from the USPTO.

iii. The USPTO would have wanted to be made aware of at least the following material communications in EP Application No. 00909089.5, all of which occurred prior to the first substantive response in the Space Filling Miniature Patent Family in the United States:

- August 14, 2003 Reply to Examination Report
- October 28, 2004 Summons
- December 15, 2004 Letter Dealing with Oral Proceedings
- January 2005 Minutes from Oral Proceedings

iv. Upon information and belief, one or more of Roland Brachmann of Jones Day, Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or the inventors from the Fractus Common Inventor Group never provided any of these communications to the USPTO. Without such communications, Examiner Nguyen at the USPTO determined that the “box-counting dimension greater than one” claim feature was novel — a finding contrary to multiple rejections at the EPO.

v. The communications to and from the EPO in EP Application No. 00909089.5 (the foreign counterpart to the ‘635 Patent) were highly material to the claims of the ‘635 Patent Application, the ‘850 Patent, and the ‘822 Patent.

vi. The intent to deceive Examiner Nguyen and the USPTO by one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or inventors in the Fractus Common Inventor Group (the “EPO Group Having a Duty of Candor”) is also apparent

vii. Because the highly material EPO communications in EP Application No. 00909089.5 (including the August 14, 2003 tutorial and box-counting dimension references) were knowingly withheld from the prosecution of the Space Filling Miniature Patent Family, one or more of Roland Brachmann of Jones Day, Joseph Sauer

of Jones Day, David Maiorana of Jones Day, and/or inventors from the Fractus Common Inventor Group intentionally deceived Examiner Nguyen and the USPTO. As a result, the patents in the Space Filling Miniature Patent Family are unenforceable due to inequitable conduct.

viii. Any inequitable conduct that occurred in the ‘635 Patent Application would spread to children that claimed priority to such an application. Because the same claim features (e.g., space-filling curve and box-counting dimension greater than one) included in the ‘635 Patent Application were also included in the ‘850 Patent and the ‘822 Patent, the inequitable conduct with respect to such features in the ‘635 Patent Application infected the ‘850 Patent and the ‘822 Patent. Additionally, the failure to cite the EPO communications and references in EP Application No. 00909089.5 (including the August 14, 2003 tutorial) in the prosecution of the applications leading to the ‘850 Patent and the ‘822 Patents separately constitutes a basis of inequitable conduct with respect to the ‘850 Patent and the ‘822 Patent.

ix. Accordingly, the ‘850 Patent and the ‘822 Patent are unenforceable due to inequitable conduct.

g. The ‘850 Patent and the ‘822 Patent are additionally unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in the prosecution before the USPTO violated a duty of candor and good faith in dealing with the USPTO, including the following:

i. In the prosecution of the ‘850 Patent and the ‘822 Patent, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO concealed a “new matter” violation and pursued invalid claims.

ii. The claims as originally filed in the ‘635 Patent Application (the parent of the ‘850 Patent and the ‘822 Patent) contained the following:

1.- An antenna in which at least one of its parts is shaped as a space-filling curve (hereafter SFC), being said SFC defined as a curve composed by at least ten connected *straight* segments . . .

(Claim 1 of United States Patent Application No. 10/182,635, filed July 19, 2002, emphasis added). The term “segments” was modified by the term “straight.”

iii. The ‘635 Patent Application was abandoned and United States Patent Application No. 11/110,052 (hereinafter the “’052 Application” which issued as the ‘850 Patent) purportedly claims priority to the ‘635 Patent Application.

iv. Claim amendments for EP Application No. 00909089.5 attempted to delete the term “straight” before the term “segment.” As indicated in an annex to the minutes of the January 2005 oral proceedings for EP Application No. 00909089.5, the EPO disallowed the removal of the word “straight” before “segment.” Because of the rejection in the preceding subparagraph for EP Application No. 00909089.5, Fractus representatives ultimately reintroduced the term “straight” before “segments” in the claims that were ultimately granted in EP Application No. 00909089.5.

v. On April 20, 2005, in the ‘052 Application, all the claims were cancelled and a new set of claims was presented that removed the word “straight” before the term “segment” (this amendment hereinafter referred to as the “April 20, 2005 Amendment.”). One or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO including, but not limited to, Brian Walker of Howison & Arnott was involved with the preparation of the April 20, 2005 Amendment for the USPTO. In making the April 20, 2005 Amendment, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO knew or should have known of the lack of support in the specification for a segment that is not “straight.”

vi. The withholding of EPO communications in applications leading to the '850 Patent and the '822 Patent in conjunction with a failure to cite alleged support for claim amendments was an attempt by one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO to conceal new matter introduced into each respective application.

vii. Less than three months after the April 20, 2005 Amendment, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO again sought claims not supported by the specification in United States Application No. 11/179,250 (hereinafter the '250 Application, which issued as the '822 Patent), which is a purported continuation of the '052 Application. On July 12, 2005, in the '250 Application, all the claims originally present in the '635 Application were cancelled and a new set of claims was added with the term "adjacent bends" and "segments" (without "straight") provided in lieu of the word "straight segment" (referred to hereinafter as the July 12, 2005 Amendment).

viii. One or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO including, but not limited to, Brian Walker of Howison & Arnott was involved with the preparation of the July 12, 2005 Amendment for the USPTO.

ix. In making the July 12, 2005 Amendment in the application leading to the '822 Patent, one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO violated their duty of candor by withholding the January 2005 communication (and other similar communications) from European Patent Application No. 00909089.5. In making the July 12, 2005 Amendment,

one or more of the inventors in the Fractus Common Inventor Group, individuals in the Space Filling Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO violated their duty of candor by failing to inform the USPTO of alleged support in the specification for the July 12, 2005 Amendment.

x. Accordingly, the '850 Patent and the '822 Patent are unenforceable due to inequitable conduct.

NINTH AFFIRMATIVE DEFENSE

131. Upon information and belief, SHARP allege that Fractus and/or its agents/counsel engage in inequitable conduct affecting all of the asserted claims of U.S. Patent Nos. 7,411,556 and 7,312,762. Without limitation, SHARP expressly incorporates the allegations relating to this defense as set forth in the Affirmative Defenses of each Defendant in this action.

a. The '556 Patent and the '762 Patent are unenforceable because Applicants and/or their patent attorneys and/or others substantively involved in prosecution before the USPTO knowingly withheld highly material information with an intent to deceive, including the following:

i. David Maiorana and Joseph Sauer of the Jones Day law firm prosecuted the applications leading to the '556 Patent and the '762 Patent. At a minimum, David Maiorana of Jones Day filed the application leading to the '762 Patent and Joseph Sauer of Jones Day filed the application leading to the '556 Patent. Further, upon information and belief, Mr. Maiorana and Mr. Sauer discussed and shared prosecution strategies amongst one another in the prosecution of Fractus patent applications. Accordingly, Mr. Maiorana and Mr. Sauer had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information in the prosecution of the applications leading to the '556 Patent and the '762 Patent.

ii. Carles Puente Baliarda was an inventor on each and every one of the following “space-filling curve” applications/patents: the ‘675 Patent, the ‘850 Patent, the ‘822 Patent, the ‘635 Patent Application, the ‘556 Patent and the ‘762 Patent. Accordingly, Carles Puente Baliarda had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of the applications leading to the ‘556 Patent and the ‘762 Patent.

iii. The ‘556 Patent and the ‘762 Patent — like the ‘675 Patent, the ‘850 Patent, the ‘822 Patent, and the ‘635 Patent Application — include or included claims with the “space-filling curve” feature. Upon information and belief, Fractus treated the “multi-segment curve” claim feature as a similar feature to the “space-filling curve” claim feature.

iv. Because of the relatedness of the claims of the application leading to the ‘675 Patent and the applications leading to the ‘556 Patent and the ‘762 Patent (in particular, the “space-filling curve” claim features), a patent examiner of the applications leading to the ‘556 Patent and the ‘762 Patent would have wanted to know of the rejections issued and/or references applied by the examiner of the application leading to the ‘675 Patent.

v. On October 4, 2004, in the prosecution of the application leading to the ‘675 Patent, Examiner Wimer of the USPTO issued an office action (addressed to Joseph Sauer of Jones Day), which was received by one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda. Examiner Wimer’s rejection informed one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda that the ‘114 Patent disclosed the “space-filling curve” feature of the claims.

vi. At the same time, on October 4, 2004, the claim feature of the “space-filling curve” was also present in the claims of the co-pending application leading to the ‘762 Patent Application. For example, claim 10 (as it existed on October 4,

2004) specified that “the shape of at least one loading strip is a space-filling curve.” Accordingly, the ‘114 Patent and the rejections based thereupon were material to the application leading to the ‘762 Patent. Furthermore, the ‘114 Patent and/or rejections based thereupon were not cumulative to references and information already of record in the application leading to the ‘762 Patent. Notwithstanding this, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda withheld the ‘114 Patent and Examiner’s Wimer’s rejection from the USPTO in the prosecution of the application leading to the ‘762 Patent.

vii. In addition to withholding the ‘114 Patent and rejections based thereupon in the prosecution of the application leading to the ‘762 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda additionally withheld other references cited by Examiner Wimer in rejecting claims of the application leading to the ‘635 Patent. In particular, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda withheld United States Patent Nos. 6,011,518 and 6,087,990 — both of which were cited by Examiner Wimer in an obviousness rejection of October 4, 2004 for claims of the application leading to the ‘675 Patent.

viii. Despite previously citing substantially the same references in both the application leading to the ‘675 Patent and the application leading to the ‘762 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda withheld rejections/references received in the application leading to the ‘675 Patent from the prosecution of the application leading to the ‘762 Patent.

ix. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda recognized their duty to disclose prior art cited in the application leading to the ‘675 Patent in other Fractus patent applications. On December 13, 2004, almost two months after receiving the rejection in the application leading to the ‘675 Patent, David Maiorana of Jones Day cited the ‘114

Patent, the '518 Patent, and the '990 Patent in United States Patent Application No. 10/963,080 entitled "Multilevel Antenna." Significantly, United States Patent Application No. 10/963,080 entitled "Multilevel Antenna" did not include the "space-filling curve" claim feature whereas the application leading to the '762 Patent did include such a claim feature. However, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda did not cite the '114 Patent, the '518 Patent, and the '990 Patent in the application leading to the '762 Patent.

x. The application leading to the '556 Patent was filed on May 9, 2005 by Joseph Sauer of Jones Day. One or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda recognized the relatedness of the '556 Patent to the Space Filling Miniature Patent Family (which included the '850 Patent, the '822 Patent, and the '635 Patent Application). Specifically, the application leading to the '850 Patent — United States Patent Application No. 11/110,052 — was specifically incorporated by reference in the specification of the '556 Patent as follows: "The use of shape-filling curves to form antenna structures is described in greater detail in the co-owned U.S. application Ser. No. 11/110,052, entitled Space-Filling Miniature Antennas, which is hereby incorporated into the present application by reference."

xi. The application leading to the '556 Patent included the same "space-filling curve" claim feature being prosecuted in the application leading to the '675 Patent. For example, claim 6 of the originally filed '556 Patent recited that "the first radiating arm forms a space-filling curve," and claim 1 of the application leading to the '675 Patent recited that "at least a portion of the radiating arm defining a space-filling curve." Accordingly, the references and rejections received in the prosecution of the application leading to the '675 Patent were material to the prosecution of the application leading to the '556 Patent.

xii. The '114 Patent and the rejections based thereupon were never disclosed in the applications leading to the '556 Patent and the '762 Patent. Those

having a duty to disclose the '114 Patent and the rejections based thereupon failed to disclose or have them disclosed to the USPTO in the prosecution of the applications leading '556 Patent and the '762 Patent.

xiii. The '114 Patent and the rejections based thereupon (received in the prosecution of the application leading to the '675 Patent) were highly material to claims of the applications leading to the '762 Patent and the '556 Patent.

xiv. The intent to deceive the USPTO by one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carles Puente Baliarda (the "Puente Group Having a Duty of Candor") is also apparent.

xv. The highly material '114 Patent and the rejections based thereupon were knowingly withheld from the prosecution of the applications leading to the '762 Patent and the '556 Patent, one or more of Joseph Sauer of Jones Day, David Maiorana of Jones Day, and/or Carlos Puente Baliarda intentionally deceived the USPTO.

xvi. Accordingly, the '556 Patent and the '762 Patent are unenforceable due to inequitable conduct.

b. The '762 Patent and the '556 patent are further unenforceable because Fractus and/or its patent attorneys and/or others substantively involved in the prosecution before the USPTO withheld highly material information with an intent to deceive, including the following:

i. Fractus Application Serial No. 10/797,732 (the "'732 Application"), which issued as Patent No. 7,362,283 (the "'283 Patent"), was examined by Examiner Le. Carles Puente Baliarda is a named inventor on the '283 Patent.

ii. One or more of Ross Robinson, Stanley Moore, Shoaib Mithani, and Michael Maddox, of Winstead PC and/or Jenkins & Gilchrist, and David Maiorana and Joseph Sauer of Jones Day, were substantively involved in the prosecution

of the '732 Application, and accordingly, had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO.

iii. In the '732 Application, Examiner Le issued an August 9, 2007 Office Action rejecting claims under, *inter alia*, 35 U.S.C. § 102 in view of U.S. Patent No. 6,359,589 to Bae ("Bae"). In that Office Action, Examiner Le determined, regarding Bae, that "[t]he ground plane comprises at least one of a space-filling curve [sic] shape and a 'multilevel structure' (figure 11)," and further that "Bae does teach in figure 11 the ground plane 40 having 'a multilevel structure.'"

iv. One or more of Ross Robinson, Stanley Moore, Shoaib Mithani, and Michael Maddox, of Winstead PC and/or Jenkins & Gilchrist, and David Maiorana and Joseph Sauer of Jones Day, were substantively involved in the prosecution of the applications leading to the '556 Patent, and accordingly, had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO.

v. The application leading to the '556 Patent was examined by Examiner Ho.

vi. The '556 Patent includes one or more claims reciting "space-filling curve." Carles Puente Baliarda is a named inventor on the '556 Patent.

vii. One or more of Ross Robinson, Stanley Moore, Shoaib Mithani, and Michael Maddox, of Winstead PC and/or Jenkins & Gilchrist, and David Maiorana and Joseph Sauer of Jones Day, were substantively involved in the prosecution of the applications leading to the '762 Patent, and accordingly, had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO.

viii. The application leading to the '762 Patent was examined by Examiner Wimer.

ix. The '762 Patent includes one or more claims reciting "space-filling curve" and one or more claims reciting "multilevel structure." Carles Puente Baliarda is a named inventor on the '762 Patent.

x. On information and belief, the Bae reference and the rejections by Examiner Le in view of Bae were withheld from Examiner Ho during prosecution of the '556 Patent and Examiner Wimer during prosecution of the '762 Patent, with intent to deceive, by one or more of Ross Robinson, Stanley Moore, Shoaib Mithani, Michael Maddox, David Maiorana, Joseph Sauer, Carles Puente Baliarda and/or others having a duty of candor to the USPTO.

xi. On information and belief, Examiner Ho in examining the applications that led to the '556 Patent and Examiner Wimer in examining the '762 Patent – each of which include claims reciting a "multilevel structure" and/or "space-filling curve" – would have wanted to know about the Bae reference and Examiner Le's rejections under 35 U.S.C. §102 and determination that it discloses a "multilevel structure" and "space-filling curve." The rejections by Examiner Le and the Bae reference were thus material to the claims of the '556 Patent and '762 Patent.

xii. Accordingly, the '556 Patent and '762 Patent are unenforceable due to inequitable conduct.

c. The '762 Patent and the '556 patent are further unenforceable because Fractus and/or its patent attorneys and/or others substantively involved in the prosecution before the USPTO withheld highly material information with an intent to deceive, including the following:

i. At least Joseph Sauer of Jones Day; Stanley Moore of Jenkins & Gilchrist (and later Winstead P.C.), and Shoaib Mithani of Jenkins & Gilchrist (and later Winstead P.C.) prosecuted the application leading to the '556 patent (these individuals collectively referred to as the "Multiband Monopole Prosecution Group").

ii. At least Joseph Sauer of Jones Day, David Mairona of Jones Day, Stanley Moore of Jenkins & Gilchrist (and later Winstead P.C.), Ross Robinson of Jenkins & Gilchrist (and later Winstead P.C.), and Shoaib Mithani of Jenkins & Gilchrist (and later Winstead P.C.) prosecuted the application leading to the '762 patent (these individuals collectively referred to as the "Loaded Antenna Prosecution Group").

iii. The individuals in the Multiband Monopole Prosecution Group owed a duty of candor and good faith in dealing with the USPTO. The individuals in the Loaded Antenna Prosecution Group owed a duty of candor and good faith in dealing with the USPTO in the prosecution of applications in the Loaded Antenna Prosecution Group.

iv. Upon information and belief, one or more of inventors listed on the '556 Patent, individuals in the Multiband Monopole Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO was aware of the Puente Dissertation. Upon information and belief, one or more of the inventors listed in the '762 Patent, individuals in the Loaded Antenna Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO was aware of the Puente Dissertation.

v. Upon information and belief, Carles Puente Baliarda of the Fractus Multilevel Inventor Group was aware of the Puente Dissertation. Upon information and belief, individuals at Jenkins & Gilchrist were aware of the Puente Dissertation because Michael Maddux of Jenkins & Gilchrist cited the Puente Dissertation in another Fractus application leading to United States Patent No. 7,245,196.

vi. Shoaib Mithani of Jenkins & Gilchrist (and later Winstead P.C.) of the Multiband Monopole Prosecution Group and the Loaded Antenna Prosecution Group also prosecuted the Fractus application leading to United States Patent No. 7,245,196 and should have been aware of the Puente Dissertation.

vii. The Puente Dissertation was not cited in the prosecution of the application leading to the '556 Patent or the application leading to the '762 Patent.

viii. The Puente Dissertation is material to the patentability of the claims in the '556 Patent because it anticipates or renders obvious claims of the '556 Patent as shown on the invalidity charts served on Fractus and which are hereby incorporated by reference.

ix. The Puente Dissertation is material to the patentability of the claims in the '762 Patent because it anticipates or renders obvious claims of the '762 Patent as shown on the invalidity charts served on Fractus on the same day and which are hereby incorporated by reference.

x. One or more of inventors listed on the '556 Patent, individuals in the Multiband Monopole Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO withheld the Puente Dissertation from the prosecution of the application leading to the '556 Patent.

xi. One or more of inventors listed on the '762 Patent, individuals in the Loaded Antenna Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO withheld the Puente Dissertation from the prosecution of the application leading to the '762 Patent.

xii. By intentionally withholding the Puente Dissertation from the application leading to the '556 Patent, one or more of inventors listed on the '556 Patent, individuals in the Multiband Monopole Prosecution Group, and/or others owing a duty of candor and good faith in dealing with the USPTO sought to obtain allowance of claims that would not otherwise be allowable over the Puente Dissertation.

xiii. Accordingly, the '556 Patent and the '762 Patent are unenforceable due to inequitable conduct.

d. The '762 Patent is unenforceable because Fractus and/or its patent attorneys and/or others substantively involved in the prosecution before the USPTO withheld highly material information with an intent to deceive, including the following:

i. The application leading to the '762 Patent was filed on April 13, 2004 and claims priority to PCT/EP2001/11914 dated October 16, 2001. The '762 Patent issued on December 25, 2007. The '762 Patent is assigned on its face to Fractus, S.A.

ii. At least Joseph Sauer and David Maiorana of Jones Day, Stanley Moore of Jenkins & Gilchrist (and later Winstead P.C.), Ross Robinson of Jenkins & Gilchrist (and later Winstead P.C.), and Shoaib Mithani of Jenkins & Gilchrist (and later Winstead P.C.), prosecuted the application leading to the '762 Patent. As a result, Joseph Sauer, David Maiorana, Stanley Moore, Ross Robinson, and Shoaib Mithani each had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO in the prosecution of Fractus patent applications, including the application leading to the '762 Patent.

iii. United States Patent No. 7,015,868 (the "'868 Patent") issued on March 21, 2006, and is assigned on its face to Fractus, S.A. United States Patent No. 7,123,208 (the "'208 Patent") issued on October 17, 2006, and is assigned on its face to Fractus, S.A. United States Patent No. 7,148,850 (the "'850 Patent") issued on December 12, 2006, and is assigned on its face to Fractus, S.A. United States Patent No. 7,202,822 (the "'822 Patent") issued on April 10, 2007, and is assigned on its face to Fractus, S.A.

iv. One or more of Carles Puente Baliarda and Jordi Soler Castany (hereinafter, the "Fractus Common Inventor Group") were listed as inventors on one or more of the following patents: the '762 Patent, the '868 Patent, the '208 Patent, the '850 Patent, and the '822 Patent. Additionally, upon information and belief, one or more of the inventors in the Fractus Common Inventor Group were substantively involved in the

prosecution of the applications leading to the '762 Patent, the '868 Patent, the '208 Patent, the '850 Patent, and the '822 Patent. Accordingly, each person in this Fractus Common Inventor Group had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO for each of the '762 Patent, the '868 Patent, the '208 Patent, the '850 Patent, and the '822 Patent.

v. None of the one or more individuals with a duty of candor and good faith in dealing with the USPTO in the application leading to the '762 Patent, including without limitation Stanley Moore, Ross Robinson, and Shoaib Mithani of Jenkins & Gilchrist P.C. (and later Winstead P.C.), Carles Puente Baliarda, and Jordi Soler Castany, ever disclosed the '868 Patent, the '208 Patent, the '850 Patent, or the '822 Patent to Examiner Wimer in the application leading to the '762 Patent.

vi. The failure to cite the '868 Patent, the '208 Patent, the '850 Patent, and the '822 Patent in the application leading to the '762 Patent is material because due to the identical or strikingly similar nature of the claims among these patents, and because each of the '868 Patent, the '208 Patent, the '850 Patent, and the '822 Patent had already issued prior to the issuance of the '762 Patent, Examiner Wimer would have wanted to know of those other Fractus patents so that he could issue a rejection for double patenting, such as for judicially created double patenting.

vii. The '868 Patent, the '208 Patent, the '850 Patent, and the '822 Patent were highly material to the claims of the '762 Patent.

viii. The intent to deceive the USPTO and Examiner Wimer in the application leading to the '762 Patent by one or more of the individuals with a duty of candor and good faith in dealing with the USPTO is also apparent.

ix. Accordingly, the '762 Patent is unenforceable due to inequitable conduct.

e. The '762 Patent is unenforceable because Fractus and/or its patent attorneys and/or others substantively involved in the prosecution before the USPTO withheld highly material information with an intent to deceive, including the following:

i. Fractus Chinese Patent Application No. CN2001823716 (the "716 Chinese Application"), which issued as Chinese Patent CN100382385 (the "Chinese '385 Patent"), was a foreign counterpart to the application that led to issuance of the '762 Patent, and claims priority to the same PCT application as does the '762 Patent: PCT/EP01/11914.

ii. One or more of Fractus' U.S. and/or foreign patent attorneys were substantively involved in the prosecution of the '716 Chinese Application. One or both of the inventors of the '716 Chinese Application, Carles Puente Baliarda and Jordi Soler Castany, was substantively involved with and/or assisted in prosecution. One or more of Ross Robinson, Stanley Moore, Shoaib Mithani, and Michael Maddox, of Winstead PC and/or Jenkins & Gilchrist, and David Maiorana and Joseph Sauer of Jones Day, were substantively involved in the prosecution of the applications leading to the '762 Patent, and accordingly, had a duty of candor and good faith in dealing with the USPTO, which included a duty to disclose material information to the USPTO. The application leading to the '762 Patent was examined by Examiner Wimer.

iii. In the '716 Chinese Application, the Chinese patent examiner issued a February 16, 2007 Office Action rejecting claims in view of Japanese Patent JP 10-303637 ("the '637 JP Reference"). Accordingly, one or more of Fractus' U.S. and/or foreign patent attorneys substantively involved in the prosecution of the '716 Chinese Application, Carles Puente Baliarda and Jordi Soler Castany became aware of the '637 JP Reference.

iv. The '637 JP Reference is prior art to the '762 Patent. The '637 JP Reference invalidates one or more claims of the '762 Patent.

v. On information and belief, the '637 JP Reference and the rejections of the Chinese patent examiner in view of the '637 JP Reference were withheld from Examiner Wimer during prosecution of the '762 Patent, with intent to deceive, by one or more of Ross Robinson, Stanley Moore, Shoaib Mithani, Michael Maddox, David Maiorana, Joseph Sauer, Carles Puente Baliarda and/or others having a duty of candor.

vi. Accordingly, '762 Patent is unenforceable due to inequitable conduct.

TENTH AFFIRMATIVE DEFENSE

132. Although Fractus is entitled to no relief whatsoever, Sharp expressly reserves the right to implead indemnitors, if any.

ELEVENTH AFFIRMATIVE DEFENSE

133. Although Fractus is entitled to no relief whatsoever, Fractus also is not entitled to injunctive relief as a matter of law because it cannot satisfy the legal requirements for such relief and it has an adequate remedy at law.

TWELVETH AFFIRMATIVE DEFENSE

134. Although Fractus is entitled to no relief whatsoever, Fractus also has failed to plead willful infringement against SHARP as a matter of law and, therefore, that allegation should be stricken.

THIRTEENTH AFFIRMATIVE DEFENSE

135. SHARP expressly reserves the right to amend this Answer to allege any other defenses that are currently unknown to it. SHARP also reserves the right to rely upon any defense (including, but not limited to, any affirmative defenses) of the other defendants in this action.

JURY DEMAND

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure and the Seventh Amendment to the Constitution of the United States, SHARP demand a trial by jury of all issues triable as of right by jury in the above action.

PRAYER

Wherefore, SHARP prays for a judgment that:

1. The Complaint be dismissed in its entirety with prejudice;
2. Fractus is not entitled to the relief sought in its Complaint, or any other relief;
3. All asserted claims are invalid, not infringed and unenforceable;
4. No damages are due or owing from SHARP;
5. SHARP be awarded costs and disbursements, including attorney fees for this exceptional action, as provided for, *inter alia*, by 35 U.S.C. § 285, Rule 11 and/or 28 U.S.C. §§ 1927 and 1928; and
6. Such other and further relief as the Court may deem appropriate.

Dated: February 24, 2010

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was filed and/or served electronically in compliance with Local Rule CV-5(a). As such, this document was served on all counsel who have consented to electronic service. Local Rule CV-5(a)(3)(A). Pursuant to Fed. R. Civ. P. 5(d) and Local Rule CV-5(e), all other counsel of record not deemed to have consented to electronic service were served with a true and correct copy of the foregoing by certified mail, return receipt requested, on February 24, 2010.

/s/ Melvin R. Wilcox, III
MELVIN R. WILCOX, III